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COMPREHENSIVE EXAMINATION

(Question II)

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Describe as accurately as possible the design process in architecture. Use two or three buildings in your portfolio as examples. You should deal with questions such as -How do you go about designing a building? Where do your images come from? To what extent do you visualize the reality of the buildings?...and to what extent are you dealing in abstractions? Why? Where does your intuition come from? How are design decisions coordinated? How do judgements of value occur? How does the building get its character? Note that the description of the design process in general is not at all the same as the description of the buildings alone- - the buildings should be used only to provide examples which illustrate your main points. Be as specific as possible but within the framework of a coherent essay.

A description of the design process in architecture would claim an explicitly defined series of stages according to which the architect could solve the problems he is asked. I am referring here to stages mentioned in almost all the books on design methods and labeled more or less as:

- Understanding of the problem
- Collection of information and data related to the problem
- Analysis of the information and the functional requirements
- Formulation of a quantitative programme of spaces that are needed
- Synthesis in abstract schemes that clarify the relationships between the spaces
- The so-called "creative act", that includes the design of the building, which is usually decided after alternatives and complicated evaluation processes

Intellectually, we tend to believe that such a predetermined ordered sequence of steps helps the architect, since his thought, skill and creative ability have confronted all the different aspects and possible solutions of the given problem before he comes up with the desired final result.

But what is mainly missing in this process is the relationship between the architect and his product. According to this lack of connection, the created product is fully arbitrary, since there is nothing that establishes any relationship between the architect and its product. Although the process has taken care of the building, the architect may have never dreamed of this building, or never felt its spaces, or had any sense of its character. All these aspects of his personality have been swept away by the rigid rationalization of his thoughts. The building he has designed might be nice, but

nothing in this process guarantees the harmony and the beauty of expected product—only its perfect function can be proved.

After the briefly stated comments concerning the more classical approach to the design process, I would like to argue in favor of a rather different approach to the same process.

First of all, I will give the main properties of this process as I have felt them through my experience in solving architectural problems:

1. The product of the design process is not concerned only with its final result.

The desired product constitutes both, the fundamental starting point and the ultimate end of the design process. That means that, even from the very first moment, the building starts to take its form and shape as a complete entity as well as a part of a larger whole. The architect tries to see the building as clearly as possible at each step of the design process. He visualizes, rather vaguely in the beginning, the whole building, and yet more strongly some parts of it. Then he tries to develop these images as concretely as possible, since the final design of the building will be the record of these images on paper.

2. During the design process, rational thought and intuition operate in a balanced and complementary way.

The mind reaches this state after training, during which these two utterly different approaches act each in support of the other. It implies that the rational thought balances the arbitrariness of the intuitive thought. It helps by providing the spectrum within which the intuition acts. On the other hand, the intuition refines the rational thought, giving feeling to it. Finally, they melt into each other. This occurs in such a way in the architect's mind, that even the boundaries between intuition and rational thought are no longer distinguishable.

The most positive and powerful consequence of this mutual aid is that the creative ability is released in a calm and genuine way, giving birth to the ideas in mind.

3. The centering process is the primary concept upon which the design process is based.

To clarify the meaning of this concept, an extract of C. Alexander's

draft is quoted:

"The fundamental concept is that of a center. A center is not a point: it is a whole, a shape, an area, which is well enough defined to possess or define a center, at its heart..... It is the essence of the centering process, that you always search, in your mind, for the most poignant gap, the most needy spot, for the rift whose mending will do the most to heal and help to form the not yet known emerging whole."

It means that each single act in the design process, from the first, -that is the location of the building in accord with its context,- up to the last, -let us say- the ornamentation of the building-, has the main purpose of creating the feeling of a self-consistent space where the acting forces are brought into harmonious balance.

To clarify and make more understandable these main properties of the design process, since the applicability and the practical implications they carry are very important, I will bring some examples from the experiences I have had approaching the design process.

My intention is not only to show how each one of these mental operations works on its own behalf, but mainly to illustrate their collaboration and their mutual support at the crucial points of the design process when judgements of value occur and when decisions have to be coordinated.

The starting point of the design process occurs rather unconsciously, at the emergence of the first images of the potential building, which is intended to cover some defined needs by suppling the appropriate facilities.

It is rather hard to say exactly where the origins of these images lie. My personal guess is that they develop in two different ways. Either from previous experiences of different places that have had a strong positive or negative impact, or from intellectual operations when trying to imagine and embody spaces which seemed impressive and nice according to somebody's written or oral description.

At the moment of their birth these images don't refer literally to the actual configuration of the building. They are general, dim and poor, -quantitatively as well as qualitatively-, concerning the spatial elements and characteristics they comprise. However, these images convey clear, concrete and rich feelings, generated by an imaginative

experience of the space. It is intended that these feelings, according to the architect's personal desires and expectations, will be aroused while experiencing the building.

So, this first intuitive touch to the emerging building settles internally a rather strong feeling for the space. It remains constant until the building takes its definite form. The feeling gives the entire design process its basis and helps the judgements of value to occur in a self-confident and universally accepted way.

With reliance on these feelings, the previously vague images become concrete and clear, and the building starts to point out its potential existence. At that moment in a loose state of mind, some decisions are made, that are not immediately interpretable in a singular shape and form. The decisions refer mainly to that particular characteristic of the building, by which the desirable feelings are conveyed. That's why these characteristic parts are clearly expressed, in each extremely different form that the building might take before it consolidates its existence in the final scheme.

The question of "wrong or right" has no place in these kinds of decisions. Only the doubt for a deep fallacy is acceptable.

Reference to an example could illustrate the practical dimensions of this description and could make this process more clearly understandable. The example comes from a group project which simulates the piecemeal growth of a four-storey urban structure for the San Francisco Waterfront.

In the process of simulating the growth of the area, and after the first four increments were built, I came up with the idea of a building, which was composed of small-scale services for the community, and of a community bank.

From the first moment that the building was conceived, my feelings for it were the following:

-Since it was a community building, I was imagining it to be an easily accessible building in a strong relationship with public open spaces.

-Standing at the gate-entrance into the site-, I felt that the building was calling out in a clear way to walk towards it.

These two ideas have taken their spatial schemes rather early, as a public small square and as a passage through the building leading to this square, located in an axis of symmetry with the

gate.

Although the overall form of the building has changed several times, these two spatial configurations remained the main characteristics of the building and helped a lot establishing its final form.

The concrete visualization of the building, which is strongly related to and influenced by the actual reality of its context, occurs only after knowledge of the site. Being at the site, walking on it, discovering its own specific properties, the building starts to be visualized in a serious and real way, as an entity, as well as part of a broader whole. At this moment, the infinite possible different images are eliminated in favor of one image, through both, an intuitive and thoughtful process.

In this process:

- The feelings that have been expressed for the building are the origins of the images.
- The particularities of the site and the actuality of the surrounding set limits of the images.
- The centering process, of which this act is the first step, gives the images their final form and content.

This act is the first conciliatory point, where the first, intuitively born, images and the thoughtful demands for a building—that helps the centering process—come into harmonious balance.

There are some parameters within which the building is visualized and within which abstractions are involved.

I. The designer's intuitive tendency towards visualization, as a means of avoiding spatial misconceptions.

Since, in this approach to the design process, we rely heavily on the images and visions we conceive, the visualization serves as a tool in order to avoid fallacies and misconceptions.

The need for visualization depends on the architect's effort to help the generation of a nice environment.

The more a building is connected with images, more certitude and self-confidence is involved in its design. The question of "wrong or right decisions" ceases to be annoying.

2. The designer's degree of familiarity with similar kinds of buildings

The ability and the extent at which a building is visualized depends on previous experiences in same spaces. In general, everybody can visualize a house more easily and extensively than an office building.

My ability to visualize the "Garage" was much more limited than that to visualize the "Community Bank".

3. The size of the building

It is much easier to visualize a building that is close to the human scale. In a large building the visualization is confined usually to the most important parts, which give the building its own character.

"My house in Berkley" is an example of deep visualization of almost all its spaces. Even an oral description of the house with a lot of details is still possible.

In the case of the "Community Bank" the size of the building sets limits to the vision. The parts that have been seen clearly were: the passage under the building, that is in a clear strong relationship with the gate; the tunnel under the freeway, that creates a transitional point to another area of the site; the main lobby and the community offices on the ground floor, since they are in a strong relationship with the square, and determine the points of transition in the building.

4. The degree of complexity and simplicity that is inherent in the building

We could simply say that, the more simple a building is, the more concrete and clear images we are capable to generate. The more complex a building is, the harder it is to visualize.

This is true when confronting the building as an entity. But, - as concerning the simple and the complex parts of a building -, there is a tendency to dissolve the obscurity of the difficult and unclear parts through images.

The "Community Bank" was a rather complicated building, since it is immediately attached to the freeway and since it is consisted of three buildings connected to each other. It was almost impossible to achieve a complete visualization of this building. The interesting point is that, the most complex parts - that is to say - the workshops under the freeway and the wing

attached to the freeway and consequently lit only from one side, were much more visualized than some other parts of the building that were less problematic.

5. The degree of clarification of the construction system of the building

The more we know how the building stands and how it is constructed, the more deeply we can visualize it, even in details.

In the design process of the "office building" I had not at all the chance to study its construction system. I tend to believe that this is the reason why my images for the spaces in this building were so dim. On the other hand, the understanding of the construction system of the "Community Bank" has helped a lot the process of visualizing clearly some of its spaces.

6. The images are results of a dynamic process

The visualization is a process that unfolds with the design process. The building is visualized to a different degree at the starting point of the design than at the end.

To be more precise, the more decisions made concerning the lay-out of the different spaces in the building, the more complete the visualization of the building becomes.

Of course, the later images relate to the first images and the first images become even clearer. But the character of these images is not as strong as that of the images that have been conceived at the beginning. They are rather supplementary and explanatory and they add nothing new to the character of the building.

What is true is that the deeper a building is visualized, the more simple and real it is. Also, the person who has conceived it, feels comfortable and is confident that everything in this building works well. The unvisualized spaces remain always obscure in mind, even when they take their shape on paper.

Therefore, when the entire building has been conceived and worked out in details in mind, the design process has finished. The construction process can start immediately. Its first act is to put on the ground stakes which indicate the corners of the visualized spaces. This way, the whole building is roughly designed on the ground, through a direct interpretation of images.

Of course, this immediacy is not feasible except for small buildings.

This has happened in a slightly different way in the design process of "My house in Berkley".

After I had visualized the house, I had to record these images in a drawing.

On the first attempt, I tried to do this sitting at the drawing table.

On the second attempt, I did this on the site, following exactly the marks I had put on the ground, according to the images which generated the house.

Both of the houses followed exactly the same images. Essentially, they were different, although their differences were subtle.

But it was these subtle differences, that made the house that came out of the second attempt more real and nice.

In large buildings the problem of recording the images becomes complicated. Even building models does not help. The process of transferring the images to drawings is much more difficult and it contains doubt and the danger of failure to accurately record feelings and images.

However, during the design process emphasis is not to be given only to the generation of images and visions. There are some other determinants that play a great role in the configuration of the building, which can be summarized in the concept of the centering process.

The centering process provides the framework upon which the entire design process unfolds. Moreover, it generates the criteria by virtue of which decisions are made. The premise of the centering process is that each act that shapes the built environment has either to indicate the emergence of a potential center; or to create a new center; or to enhance an old one. In disordered cases, the centering process demands those acts that can mend the existing gaps and rifts. In order to succeed, each act has to achieve that state of complete balance, where all the competing forces are dissolved. And this is accomplished only at the moment of the generation of a space, which is formed in such a way, that nothing could be added, diminished, or altered but for worse.

The essential issue that rises up now is, what does this process especially accept and what does it especially reject.

This can be faced in three consequent levels:

- On the level of mental operations
- On the level of praxis, during the design process
- On the level of the generated results

On the level of mental operations

First of all, it wouldn't be accurate to call these operations that generate spatial conceptions and forms simply mental, since feelings and intuition are, in a great degree, involved in this process.

This generative process is essentially based upon a deep knowledge of the quality of space.

The questions "What is a good building and what is a bad building" in connection with "What makes the good building good and the bad building bad" are asked repetitively and insistently, until it becomes clear what it is exactly that, that makes a place nice and real. The question becomes much more easily accessible when it is posed in a more personal way: "What makes you feel comfortable and nice in a place and not in another; and why?"

There are living examples in the world which can be studied in this way and which can teach a lot concerning the quality of space.

Only after this knowledge has been obtained, there is a strong and secure basis which we can rely on in the process of creating buildings and evaluating them.

Holding these experiences, the process of conceiving and creating space is no longer the outcome of a sterile, rational thought, but a fusion of deep insights. It operates in the realm of intuition, which embodies the knowledge of doing something good, since it has been refined from the effort, that has been spent on the understanding and the perception of good buildings.

This attitude gives the building a real and human character. It brings the self into the conceived and created space. The conceived space becomes a fact with inherent value.

And when the question "whether it is the right thing to do?" is asked, intuitively, the response is approached through feelings based on facts.

Moreover, the positive result of this approach is that the prevailing images of the recent era lose their splendour. The creative ability which was held back by these images is then released.

On the level of praxis, during the design process

When designing large buildings, the operation of conceiving and visualizing them rarely reaches that state of completion that permits the construction process to start. This occurs, rather successfully, in small buildings. As concerning large buildings, it becomes necessary to put the concepts and images on paper, since there are always gaps that need completion.

The "rules for the lay-out of large buildings" and the "rules for construction" seem to cover this need. They give instructions for what to do, step by step, while designing a building. This is done in a way, compatible with the centering process.

That means that each part of the building is confronted, so much as an important space in itself - as a center - , as well as a space connected with and influenced by other spaces. Spaces range according to an order of magnitude which loads the main, particular, and characteristic spaces of a building with specific importance.

So, decisions which refer to main spaces come first, and decisions concerning secondary spaces follow them, along a relationship of dependence.

When a decision is made it has to be taken most of the time for granted, since it acts as a point of reference for the following process. That demands that each decision has to be made seriously and thoughtfully, leaving a feeling of certitude. The difficulty of this operation is relieved by the fact that decisions are made in accordance with existing feelings and images that have been developed previously.

The rules have to be seen as a means of helping the images to be shaped in accordance and harmony with each other. They do not dispute the existence of images. Therefore, they become helpful only when they are not overemphasized to the degree that destroys whatever has been generated internally.

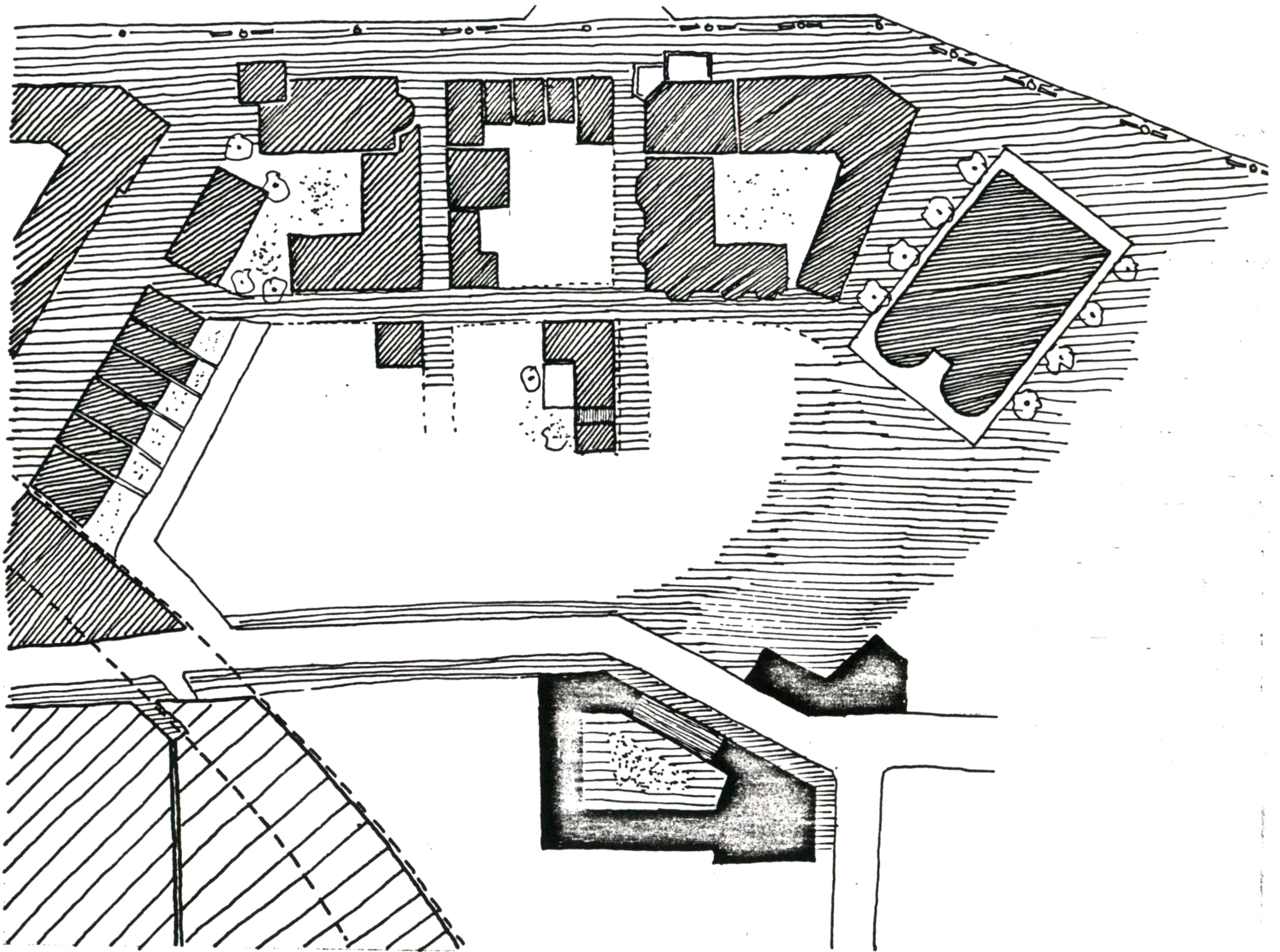
In this state of mind, the use of the rules brings positive results. It prevents the architect both from going back and forth endlessly,

and from creating dangerous gaps in his design.
Their applicability alludes to the collapse of the idea of "the alternatives", that has been used as a panacea.

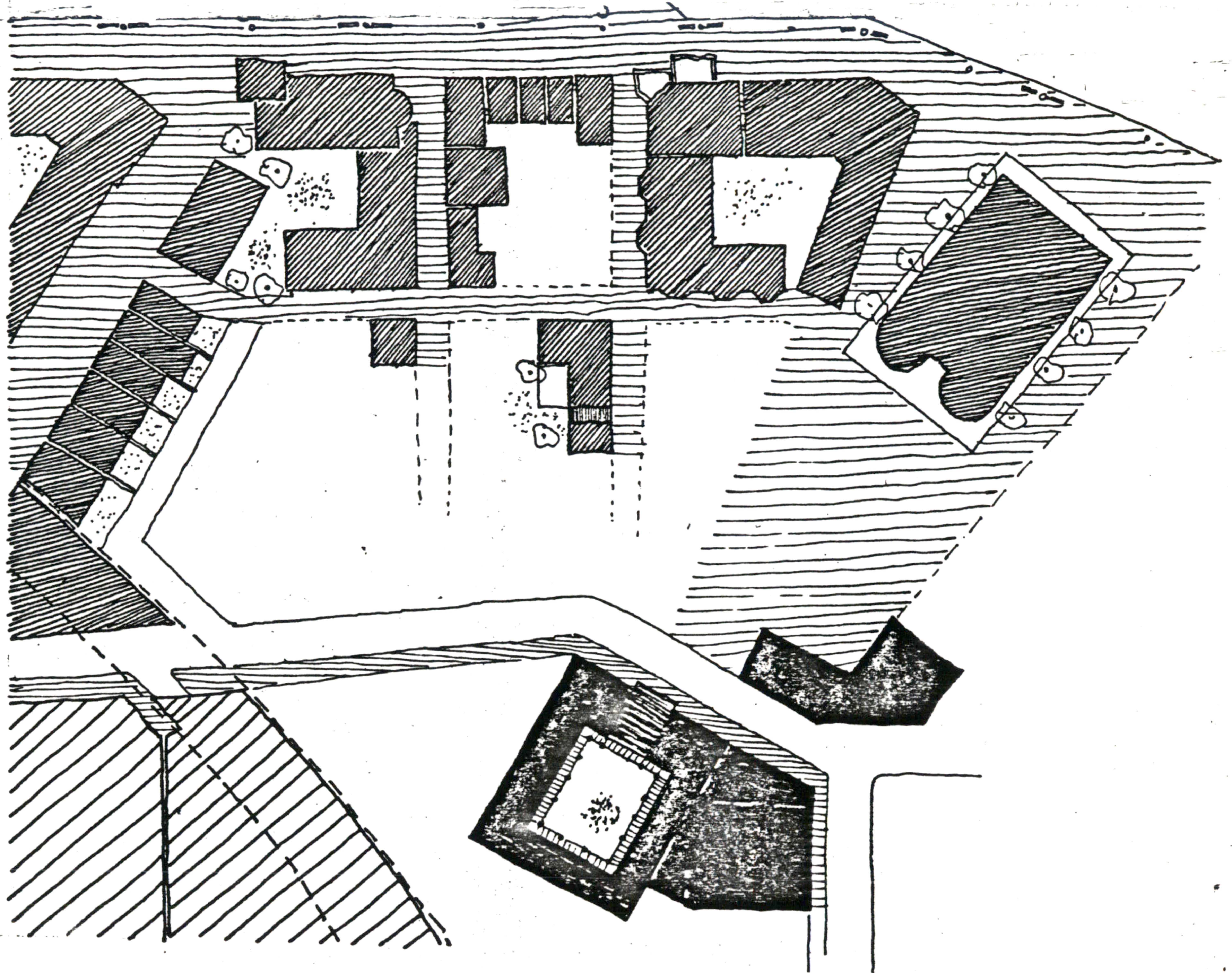
The validity of these rules, I see, will not be long.
When the idea of the centering process is integrated internally,
on a theoretical and practical level, the rules will be needless.
They will be assimilated. Therefore, they will have nothing more to
offer.

On the level of the generated results

The centering process rejects this building.



And the centering process accepts this



It is apparent that in the second case, the main spaces of the building have simple and good shapes that generate the feeling of wholeness. And this act helps to make the whole building real and coherent in itself.